Preliminary Ecological Appraisal

in respect of

IBA Plant Wellingborough

on behalf of

COVANTA
Powering Today. Protecting Tomorrow.

by

Heatons
Planning Environment Design

December 2021

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1.0 INTRODUCTION

1.1 Heatons have been commissioned to undertake a Preliminary Ecological Appraisal (PEA) to determine the ecological status of land to the north of Wellingborough, within Finedon Road Industrial Estate, hereafter referred to as the site.

1.2 The objectives of the PEA are to ascertain the habitat types and key ecological issues relating to the development proposal. This includes identifying potential impacts upon designated species and habitats and determining whether there is a need for more detailed surveys of notable plant and animal species.

1.3 Sufficient ecological information is required to fully inform the site design and development. This report identifies the ecological constraints within the site and makes recommendations for further ecological surveys.

1.4 The adoption of the mitigation proposals will enable the project to satisfy current UK and European legal wildlife requirements, as well as national and local planning regulations. All public bodies have statutory obligations under the Natural Environment and Rural Communities Act 2006 to conserve and enhance biodiversity.

Scope of works

1.5 The Preliminary Ecological Appraisal comprises the following elements:

- Desktop study of available site information;
- Phase 1 Habitat survey of the site;
- Assessment of the potential impacts of the proposed scheme;
- Appraisal of the requirements for further survey work; and
- Appraisal of the requirements for mitigation and potential for enhancement measures.

Site Location and Description

1.6 The site is located on land to the north of Wellingborough and within the Finedon Road Industrial Estate in Wellingborough, Northamptonshire, found at Ordnance Survey grid reference SP 89768 70659 (See PEA Drawing COV-001-W (ED.001)).

1.7 The site is previously made-ground / vacant development plot which is approximately 2.4 hectares in size and is comprised of intensively managed marshy grassland predominantly bordered by scrub, with patches of tall ruderal vegetation along the southern boundary. Scattered trees were found dispersed around the boundary of the site.

1.8 Outline planning permission for industrial development was granted on the site and the former sports ground to the south in 1995 and areas of adoptable access roads and services for future industrial estate along Don White Road was granted to the south of the site in 2005 and 2006.

1.9 The site consists of made ground which was re-graded and filled with spoil from land to the south in 2008/9 and has been subsequently been managed as grassland.

Proposed Development

1.10 The proposed development is to construct an industrial unit to process incinerator bottom ash (IBA) from two new energy recovery facilities in Bedfordshire and Leicestershire, which are currently under construction, into IBAA – a secondary manufactured aggregate resource, with associated parking and service yard areas. Fencing would be constructed along the eastern boundary, and retaining walls / palisade fencing on other boundaries, enclosing the plant's working area, with additional landscaping / planting of mixed scrub around the perimeters and grassland at the site entrance.

2.0 NATIONAL LEGISLATION AND PLANNING POLICY

2.1 This section summarises the legislation and planning policy in relation to ecology and biodiversity within the UK.

Legislation

2.2 A number of different Acts and Regulations refer to the protection of wildlife and habitats and have been outlined in Appendix C. It is recommended that the full legislation texts are referred to when dealing with individual cases and further legal advice is obtained where required. Protected species licences may be required to further comply with this legislation prior to the implementation of the project.

2.3 Wildlife legislation potentially relevant to this project includes –

- The Environment Act 2021;
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017;
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Countryside and Rights of Way Act (CRoW) Act 2000;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

National Planning Policy

2.4 The National Planning Policy Framework (NPPF 2021) sets out the Government's policies on protection of biodiversity through the planning system. These policies are expected to be incorporated into development planning documents at regional and local scales and are also of material worth in considering individual planning applications.

2.5 In relation to biodiversity, the NPPF (Para 108d) states that opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.6 The NPPF (Para 174) states that '*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.

2.7 The NPPF (para 180) advises that the following principles should be applied by the Local Planning Authority when determining planning applications:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

3.0 ASSESSMENT METHODOLOGY

Desktop Study

3.1 To accurately assess the potential ecological impacts of the scheme, a desktop study has been undertaken to identify the presence of sensitive ecological receptors at the site and within the surrounding area. Data has been obtained from a range of information sources including:

- Multi-Agency Geographic Information for the Countryside (MAGIC);
- Northamptonshire Biodiversity Records Centre (NBRC);
- Northamptonshire Bat Group (NBG); and
- National Biodiversity Network (NBN).

3.2 MAGIC has been used to locate designated sites and obtain information regarding statutory and non-statutory conservation areas within and around the 2km site boundary. Ecological data from NBRC, BBG and NBN has been reviewed to provide further information about sensitive ecological receptors. Appendix D includes a copy of the data search and map results from NBRC, dated 16th July 2021.

Ecological Walkover Survey

3.3 This assessment follows the methodology of a Phase 1 Habitat Survey, which aims to identify the specialist habitats that are niche to certain flora and fauna species. The methodology used for this survey implements those detailed by the Institute of Environmental Assessment (EIA) (1995) and the Joint Nature Conservation Committee (JNCC) (2010).

3.1 The site visit was required to map out the location of Phase 1 habitat types to ensure they are up to date. The survey's other purpose was to attempt to locate the presence or possibility of notable species. This survey was undertaken on the 9th November 2021 by Principal Ecologist Steve Pagett BSc (Hons) who is a qualifying member of CIEEM. Steve is an employee from Heatons who were commissioned by Covanta to provide the initial 2021 PEA report. The weather conditions were bright with a moderate breeze (3 on Beaufort scale), 5% cloud cover and a starting temperature of 16°C.

3.2 The survey recorded any evidence of the species groups outlined below, including habitat features with the potential to support them:

- Nesting birds, particularly specially protected species;
- Animal species protected under UK legislation and European legislation;
- Invasive species, particularly Japanese Knotweed, (*Fallopia japonica*) and Giant Hogweed, (*Heracleum mantegazzianum*) which are listed under UK legislation.

3.6 This information allowed the requirement for more detailed species surveys to be evaluated.

4.0 DESKTOP STUDY

Statutory Designated Sites

4.1 There were no ecological statutory designated sites within the 2km search radius. MAGIC identifies that the site falls within the SSSI Impact Risk Zone for Upper Nene Valley Gravel Pits SSSI, located approximately 3.1km from the site boundary to the south-east.

Non-Statutory Designated Sites

4.2 The site is located within the Nene Valley Nature Improvement Area (NIA). This area was designated following the Natural Environment White Paper (2011), with the aim of provide funding to support the enhancement of the ecological network.

4.3 NBRC returned three Local Wildlife Sites (LWS) within 2km of the site boundary. The nearest being Finedon Cally Banks LWS, which is also designated as a Wildlife Trust Reserve and located within Nene Valley NIA, located approximately 440m to the north-east of the proposed site. The area consists of areas of wetter scrub, mostly in the north, and drier scrub to the south, with a strip of lower, wetter ground where a few swamp and wetland plants were found.

4.4 Finedon Quarry and Disused Railway LWS is located approximately 449m from the site boundary to the north-east. This restored area provides a mosaic of habitats, including scrub, young woodland, three ponds with notable habitats such as lowland calcareous grassland, lowland fen and wet woodland. Several indicator flora indicator species include yellow-wort (*Blackstonia perfoliata*) and cuckoo-pint (*Arum maculatum*).

4.5 Finedon Pocket Park LWS is located approximately 1.92km to the north-east of the site boundary. The area of disused railway is comprised of calcareous substrate where the grassland reflects this with parts of the central grassland being quite wet with patches of scrub. Some notable species include bee orchid (*Ophrys apifera*) and twayblade orchid (*Listera ovata*).

4.6 NBRC also returned 19 areas within the 2km search radius which are designated as Potential Local Wildlife Sites (PLWS), with 15 being within the Nene Valley NIA. Unfortunately details for 14 of these have not been provided with detailed information due to them being category 1, meaning the site has never fully been surveyed and assessed against LWS

criteria. The nearest PLWS is site 978 (category 1 PWS), which is located to the south of Don White Road (which runs adjacent to the southern site boundary, around 20m away).

4.7 Flood Storage Meadow (PLWS) is located approximately 528m from the site boundary to the south-west. It is predominantly grassland not qualified as a LWS but retained as a PLWS.

4.8 Red Hill Bottom Field (PLWS) is located approximately 810m from the site boundary to the south-west. This area consists predominantly of species-rich grassland.

4.9 Northern Way Grassland (PLWS) is located approximately 1.1km from the site boundary to the south-west. The area consists of mesotrophic grassland with patches of calcareous grassland and tall ruderal vegetation which runs along the stream. The southern boundary features young planted native trees.

4.10 Finedone Sidings was a County Wildlife Site (CWS) but is now PLWS land and located approximately 1.8km from the site boundary to the north. It is split into two areas, covering a total area of 4.3 hectares. The area is comprised of tall, damp grassland (dominated by bushgrass (*Calamagrostis epigejos*)), various scrub and patches of dried-up ponds next to the River Ise. The scrub provides a suitable area of refuge for various birds and mammal species. The majority of the area, excluding the western section, is described as quite neglected with the scrub slowly invading the grassland.

4.11 Old Brickpit Lake was a CWS but now a PLWS and is located approximately 1.8km from the site boundary to the south. This is a small lake located in the base of a pit left by the now derelict brickworks, adjacent to the railway. A white willow and a couple of alders surround the lake as well as sallow, elder and birch scrub. Emergent vegetation includes species such as common cattail (*Typha latifolia*), water mint (*Mentha aquatica*), reed canary grass (*Phalaris arundinacea*).

Traditional Orchards

4.12 There were two areas of traditional orchard within the 2km search radius. One was located approximately 1.2km from the site boundary to the south-east, covering 0.72 hectares. The other was located 1.26km from the site boundary to the south, covering 0.31 hectares.

Tree Preservation Order

4.13 The mature treeline to the north of the site is subject to a Tree Preservation Order Area (ref: A/1000/0104).

Species Records

4.14 The NBRC and NBN were used to obtain data for the surrounding flora, fauna and habitat types within a 2km search radius. This would also provide information on any notable, protected or invasive species present.

Badgers

4.15 Badgers (*Meles meles*) were found on 13 occasions within the NBRC records, dated from 2004 to 2015. The closest to the site was approximately 1.65km from the site boundary to the west, dated from 2004. This involved two records, where one was a roadkill record and the other was a living observation.

4.16 NBN returned no records for badger (*M. meles*) within the 2km search radius.

Bats

4.17 NBN produced no records for bats within the 2km search radius.

4.18 NBG produced 31 records, dated from 1990 to 2019. The closest record was located approximately 1.4km from the site boundary to the north-west. This was a roost record for a *Pipistrelle spp.*, dated from 1993 and 2011. Other species recorded within the 2km radius includes: common pipistrelle (*Pipistrellus pipistrellus*), brown long-eared bat (*Plecotus auritus*), natterer's bat (*Myotis nattereri*) and whiskered bat (*Myotis mystacinus*).

Birds

4.19 NBRC returned 30 searches for bird species found within the 2km search radius surrounding the site, some of the species included: black-headed gull (*Chroicocephalus ridibundus*), stock dove (*Columba oenas*), peregrine (*Falco peregrinus*), hobby (*Falco subbuteo*), kestrel (*Falco tinnunculus*), moorhen (*Gallinula chloropus*), red crossbill (*Loxia curvirostra*), red kite (*Milvus milvus*), grey wagtail (*Motacilla cinerea*), house sparrow (*Passer domesticus*), willow tit (*P. montanus*), marsh tit (*Poecile palustris*), dunnock (*Prunella modularis*), woodcock (*Scolopax rusticola*), fieldfare (*Turdus pilaris*), barn owl (*Tyto alba*),

4.20 NBN returned 88 records for bird species found within the 2km search radius. Some species found here included: lesser redpoll (*Acanthis cabaret*), sparrowhawk (*Accipiter nisus*), sedge warbler (*Acrocephalus schoenobaenus*), reed warbler (*Acrocephalus scirpaceus*), long-tailed tit (*Aegithalos caudatus*), skylark (*Alauda arvensis*), kingfisher (*Alcedo atthis*), red-legged

partridge (*Alectoris rufa*), teal (*Anas crecca*), mallard (*Anas platyrhynchos*), meadow pipit (*Anthus pratensis*), swift (*Apus apus*), grey heron (*Ardea cinerea*), tufted duck (*Aythya fuligula*), buzzard (*B. buteo*), goldfinch (*Carduelis carduelis*), treecreeper (*Certhia familiaris*), greenfinch (*Chloris chloris*), jackdaw (*Coloeus monedula*), rock dove (*Columba livia*), rook (*Corvus frugilegus*), cuckoo (*Cuculus canorus*), whitethroat (*Curruca communis*), blue tit (*Cyanistes caeruleus*), mute swan (*Cygnus olor*), house martin (*Delichon urbicum*), great spotted woodpecker (*Dendrocopos major*), little egret (*Egretta garzetta*), yellowhammer (*Emberiza citrinella*), reed bunting (*Emberiza schoeniclus*), snipe (*Gallinago gallinago*).

4.21 All of the above species are either registered to the BoCC Amber/Red List species, are protected as Schedule 1 species under the Wildlife and Countryside Act 1981 (as amended) or Species of Principal Importance in England under the Natural Environment and Rural Communities (NERC) Act Section 41 Schedule.

Great Crested Newts (*Triturus cristatus*) (GCN)

4.22 NBRC returned no records for GCN within the 2km search radius.

4.23 GCN were found on one occasion within the NBN records, located approximately 1.7km from the site boundary to the west, dated from 2014.

Reptiles

4.24 NBN and NBRC returned no records for reptiles within the 2km search radius.

Water vole (*Arvicola amphibius*)

4.25 NBRC returned one record for water vole, within the 2km search radius, dated from 1996, located approximately 1.3km from the site boundary to the south-west.

4.26 NBN returned no records for water vole within 2km search radius.

Otter (*Lutra lutra*)

4.27 NBRC returned one record for otter approximately 1.3km from the site boundary to the south-west, dated from 2014.

4.28 NBN returned one record for otter within 2km search radius, located approximately 1.6km from the site boundary to the south, dated from 2017.

Other mammals

4.29 NBRC returned 12 records for European hedgehog (*Erinaceus europaeus*), within 2km search radius, four of which were classified as dead. The closest living record was located approximately 193m from the site boundary to the south-west, dated from 2009.

4.30 NBRC returned one record for polecat (*Mustela putorius*), located approximately 1.8km to the south-west of the site boundary, dated from 1996.

Invasive species

4.31 NBRC and NBN returned records for multiple invasive species within the 2km search radius although none were within the site boundary, such species included: Japanese knotweed, giant hogweed, Japanese rose (*Kerria japonica*), few-flowered garlic (Allium paradoxum), wall cotoneaster (*Cotoneaster horizontalis*), New Zealand pigmyweed (Crassula helmsii), Indian balsam (*Impatiens glandulifera*), curly waterweed (*Lagarosiphon major*), Himalayan balsam (*Impatiens glandulifera*) and Rhododendron ponticum.

5.0 SITE SURVEY FINDINGS

Habitats

5.1 Habitats recorded during the site survey have been categorised in line with JNCC Phase 1 Habitat Classification. The distribution of habitats across the sites is shown on the Phase 1 Habitat Plan attached in Appendix A (COV-001-W (ED.001)). These habitat types are described within the following sub sections.

5.2 A selection of photographs taken during the walkover survey are included in Appendix B.

Marshy Grassland (JNCC Code B5)

5.3 The majority of the site was covered with marshy grassland which has undergone intensive mowing, as seen in Appendix B and is in a poor condition. The grassland is enclosed predominantly with scrub which has encroached in places. There was no evidence of standing water within the site boundary. The area was dominated by buttercup (*Ranunculus spp.*) with a few patches of grass sward with some teasel (*Dipsacus fullonum*) remaining round the boundary. It looked like quite a lot of teasel was removed during the intensive management, including cutting of tufted hair grass (*Deschampsia cespitosa*). There were still areas of uncut tufted hair grass along the western boundary. A few areas of spear thistle (*Cirsium vulgare*) and creeping thistle (*Cirsium arvense*) remain within this habitat, as well as tiny patches of retained rush (*Juncus spp.*). Some other flora species found here included cut leaved cranesbill (*Geranium dissectum*), black medick (*Medicago lupulina*), soft rush (*Juncus effusus*), white clover (*Trifolium repens*), cocksfoot (*Dactylis glomerata*), creeping buttercup (*Ranunculus repens*), creeping cinquefoil (*Potentilla reptans*), oak saplings (*Quercus spp.*), spiked moss (*Taxiphyllum spp.*) and wood small reed (*Calamagrostis epigejos*).

5.4 There were signs of heavy tracks throughout the grassland (see Appendix B).

Tall Ruderal Vegetation (JNCC Code C3.1)

5.5 A narrow strip of unmown tall ruderal vegetation extends along the southern boundary of the site, adjacent to the hard standing pavement/road. Small patches of ragwort (*Senecio jacobaea*) and upright hedge-parsley (*Torilis japonica*) were found here. Other flora species found here included teasel, willowherb (*Epilobium spp.*), oak saplings, cocksfoot and St. John's wort (*Hypericum perforatum*).

Dense Scrub (JNCC Code A2.1)

5.6 Dense scrub dominated the eastern and northern boundary. There were patches of scrub along the western boundary. Some parts of the surrounding scrub have encroached slightly into the marshy grassland. Species found in this part of the site included: blackthorn (*Prunus spinosa*) and bramble (*Rubus fruticosus agg.*). There were holes in the scrub which may be utilised by rabbits (*Oryctolagus cuniculus*), foxes (*Vulpes vulpes*) and/or badgers (see Appendix B).

Hard Standing

5.7 Don White Road extends along the southern boundary of the site and is shown as a strip of hard standing ground on the survey.

Scattered Trees

5.8 There were a few small, scattered trees across the site. An oak sapling was identified within the marshy grassland towards the north-west corner of the site (see Appendix B). There were two semi-mature goat willow trees (*Salix caprea*) which border the boundary in the south-east corner. Field maple (*Acer campestre*), blackthorn and goat willow (*Salix caprea*) saplings were found along the southern boundary; dog rose (*Rosa canina*) was scattered along there too within the tall ruderal vegetation.

Species

Bats

Roosting

5.10 There were no trees on site that were assessed during walkover to provide suitable roosting opportunities for bats.

Activity

5.11 The site will provide low foraging/commuting habitat due to the grassland management regime and relatively low variety of herbs, grasses, shrubs and the limited number of scattered trees within the site, which would limit the insect populations. However, there is a large block of woodland to the north adjacent to the boundary which would provide suitable habitats for bats.

Great Crested Newts (*Triturus cristatus*) (GCN)

5.12 NBN and NBRC returned no records of GCN presence within the 500m threshold of the site. There are no water bodies identified within 500m of the site boundary. There were no signs observed during the walkover PEA survey conducted in November 2021.

Badgers

5.13 There were signs of potential badger presence, through tracks and holes in the scrub along the northern boundary, adjacent to the block of woodland during the site visit (see Appendix B). The scrub areas around the site also provide optimal foraging opportunities for badgers. The block of woodland to the north and the bank adjacent to the western boundary provides suitable habitat for sett building, but there were no habitats within the site which are considered suitable for sett building.

Birds

5.14 Habitats present on site, such as the grassland, tall ruderal vegetation and scrub areas, provide preferrable grounds for a variety of bird species. The dense scrub areas also provide suitable protection areas from predators and nesting opportunities.

5.15 Notable species found during the walkover survey included one red listed BoCC (linnet (*Linaria cannabina*) which were observed to utilise the scrub) and two amber listed BoCC

(meadow pipits and reed buntings which were observed using the grassland). Pied wagtails (*Motacilla alba*) and goldfinches were also observed during the visit.

Reptiles

5.16 Although the surrounding scrub (to the north, east and west), tall ruderal vegetation along the southern boundary, block of woodland to the north and the bank to the west provide suitable areas for reptile sheltering and foraging there were no presence or sightings of any reptiles during the site visit.

Invasive species

5.17 There were no invasive species found within the site boundary during the visit.

6.0 LIKELY IMPACTS

Statutory Designated Sites

6.1 MAGIC identifies that the site falls within the SSSI Impact Risk Zone for Upper Nene Valley Gravel Pits SSSI, located approximately 3.1km from the site boundary to the south-east. Although industrial processes which could cause air pollution are listed under the criteria of concern for this designation, the site is significantly beyond the distance that any issues would be expected due to dust emissions from the proposed IBA facility. A 2km screening distance is usually applied for SSSIs as per the EA guidance for industrial processes. This would require further assessment as part of the Environmental Impact Assessment.

Non-statutory Designated sites

6.2 Although the PLWS (978) to the south of the site may be impacted by noise, dust and changes in human activity on the site, it should be far enough away that with appropriate mitigation any potential issues will be minimised. This would need to be considered in the Environmental Impact Assessment.

Tree Preservation Order

6.3 The trees to the north of the site would be retained and suitable standoffs and other precautions applied to ensure that damage is avoided by the construction works. This would need to be considered in the Environmental Impact Assessment.

Habitats

6.4 The habitats present within the application boundary include the removal of an area of intensively managed marshy grassland, which has established on made-ground (following earthworks in 2008/2009). However due to its size and condition it is not considered to be included as a habitat of principal importance.

6.5 The existing scrub and tall ruderal vegetation would be incorporated into new strips of mixed scrub around the site perimeters, which mitigates any potential impacts arising from the development.

Species

6.6 The removal of the managed grassland habitat, and incorporation of new strips of mixed scrub around the site perimeters may impact on breeding birds, foraging/commuting bats, commuting and foraging badgers, commuting and foraging reptiles. This would need to be considered further in the Environmental Impact Assessment.

7.0 FURTHER SURVEY RECOMMENDATIONS

7.1 No further surveys are recommended on site.

8.0 MITIGATION RECOMMENDATIONS

8.1 Species-specific mitigation recommendations (and precautions) are provided below.

Species

8.2 When required, the removal of any vegetation should be undertaken outside nesting bird season, which usually takes place from late February to late August. If the removal of vegetation needs to occur within this time frame a suitably licenced ecologist should survey the designated area before any works and if any nests are found during the work, it should be immediately stopped and dealt with accordingly. Any nests found with chicks/fledglings should be left with a buffer zone around the nest until it is conformed that all birds have vacated the nest before any further vegetation removal.

8.3 To ensure that bats that may use the site for foraging and commuting continue to do so, it is strongly recommended that any new lighting used within the scheme is kept to a minimum and is carefully designed in order to prevent light spilling onto suitable habitats, most notably the block of woodland adjacent to the northern boundary.

8.4 Artificial lighting has been found to affect the feeding behaviour of bats in two ways; one is the attraction that light from certain types of lamps has to a range of insects; the other is the presence of lit conditions (BCT, 2009). With regard to insects, the increase in insects around certain types of lighting can favour bats which are more tolerant to light (pipistrelle species, noctule, Leisler's Bat and serotine) but is thought to cause adjacent habitats to support fewer insects, potentially resulting in less food for species which are adverse to lighting (myotis, long-eared, barbastelle and horseshoe bats) (BCT, 2009). The presence of lighting in areas where these species forage and commute has also been shown to significantly affect their typical foraging and commuting routes with lighting acting as a barrier for some species which they will not cross (BCT, 2009).

8.5 The following considerations should be made within the final scheme -

- **Type of lamp (light source)** - The impact on bats can be minimised by the use of low-pressure sodium lamps or high-pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

- **Luminaire and light spill accessories** - Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire

and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier, or manmade features that are required as part of the works can be positioned so as to form a barrier.

- **Lighting column** - The height of lighting columns in general should be as short as is possible as light at a low level typically reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting this can take the form of low-level lighting that is as directional as possible and below 3 lux at ground level. The acceptable level of lighting may vary dependent upon the surroundings and on the species of bat affected.

- **Predicting where the light cone and light spill will occur** - There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

- **Light levels -** The light should be as low as guidelines permit. If lighting is not needed, then it shouldn't be used.

- **Timing of lighting -** The times during which the lighting is on should be limited to provide some dark periods, particularly during the peak in bat activity (20.00-23.00hrs between April and September).

8.6 Removal of vegetation and construction works should avoid night-time hours and all steep-sided pits, ditches, and other excavations must be covered overnight to prevent badgers, hedgehogs or any other roaming animals from falling in. Alternatively, a ramp should be provided to allow an escape route to prevent them from being trapped. These areas must be checked in the morning before work commences to ensure no animals have been trapped overnight. The storage of any chemical and hazardous materials must be in line with best practice guidelines. They must be kept secure and far from the site boundary. If there are any piles of wood or brash within the site they must be removed carefully by hand, especially during October/November to March/April when hedgehogs hibernate. If an individual is found, they must be removed carefully and placed in an undisturbed area

outside the development zone. If at any time a badger sett is encountered, all work must stop while a suitably qualified ecologist is consulted.

9.0 SUMMARY

9.1 Heatons have undertaken a Preliminary Ecological Appraisal (PEA) to determine the ecological status of land to the north of Wellingborough, within Finedon Road Industrial Estate, hereafter referred to as the site.

9.1 There were no Ecological Statutory Designated Sites within 2km of the site boundary, although PLWS 978 is close to the south-western boundary and there is a Tree Preservation Order on the woodland belt adjacent to the north. The site is also within the Nene Valley Nature Improvement Areas and SSSI Impact Risk Zone for Upper Nene Valley Gravel Pits SSSI, located approximately 3.1km from the site boundary to the south-east.

9.2 The site consists of made ground which was re-graded and filled with spoil from land to the south in 2008/9. The survey identified the following habitats on site:

- Marshy Grassland (intensively managed and in a poor condition);
- Tall Ruderal Vegetation (limited to narrow strip to the south);
- Dense Scrub (limited to narrow strip around the northern, eastern and western boundaries);
- Hard Standing (associated with Don White Road); and
- Scattered Trees.

9.3 No further protected species survey for the site have been recommended. Potential mitigation measures and additional precautions required during works for numerous fauna species, such as for nesting birds, bats and badgers is recommended.

10.0 REFERENCES

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Appendix A –

Phase 1 Habitat Map

Appendix B –

Site Photographs

Appendix C –

Wildlife Legislation

Appendix D –

Data Search and Map from NRBC (16th July 2021)